



Public Health Engineering

Engineering Services performs a great number of programs related to the sanitation of citizens and visitors to Louisiana. These tasks are necessary to prevent human illness and deaths and are currently underfunded, but could be better funded with the establishment/ increase of self-generated fees. They include management of: 1) the Safe Drinking Water Program (Federal delegation from EPA), 2) Certification, education and testing of water/sewer plant personnel; 3) the state emergency response for water and wastewater utilities (ESF 12) at the state emergency operations center (GOHSEP), 4) Plumbing Program, 5) the swimming pool program, 6) the Community/Non-Community sewage program and 7) engineering review and permitting of design of public buildings, institutions, and campgrounds.

Objective

To assure that all citizens/visitors will have proper water/wastewater sanitation and not be exposed to disease or chemicals in homes, public buildings or institutions by contaminated drinking water, exposure to wastewater or exposure to sewer gases.

Performance Indicators

1. Number of persons dying from exposure to contaminated drinking water.
2. Number of persons hospitalized from exposure to contaminated drinking water.
3. Percent of operators maintaining certification
4. Number of persons dying from exposure to sewage or sewer gases.
5. Number of persons hospitalized from exposure to sewage or sewer gases.

Narrative

Engineering Services has worked for over 100 years in Louisiana to make sure that no citizen or visitor to Louisiana is made ill or dies from poor quality drinking water or exposure to sewage or sewage gases. Prevention of disease is maintained from a combined approach involving oversight over proper construction and maintenance of drinking water systems, plumbing systems and sewage systems. Engineering Services also maintains the federal Safe Drinking Water Program, which is a federal program delegated to Louisiana DHH by EPA and staffs the ESF 12 desk at the Governor's Office of Homeland Security and Emergency Preparedness for water and wastewater utilities as subject experts.

The Safe Drinking Water Program regularly monitors every water system for bacteriological and chemical contamination of both the source water and the treated water, regularly inspects every water system for violations, regularly oversees system compliance with operational requirements and trains, certifies and provides technical assistance to operators, owners, and managers of public water systems, provides hands-on assistance for public notice of water safety problems, and for getting violating system back into compliance with both state and Federal Safe Drinking Water rules, regularly checks that designs for new systems or new treatment processes are safe and designed using good engineering practices, responds quickly and thoroughly to every citizen complaint, keeps all records on water systems and maintains a database for response to EPA as required by Federal Rules. Response to the Center for Disease Control is also provided, as well as participation nationally with all other state drinking water programs for new and expanded rule development and drinking water issues.

Required EPA Safe Drinking Water Program elements include: database maintenance and reporting, rule compliance and enforcement, facility inspections, bacteriological, chlorine, and chemical monitoring, cross connection control, water security and emergency response, public notice and communication, complaint response, operator certification, operator and management training.

Engineering Services reviews and permits construction of sewage collection systems (house to treatment plant) and treatment systems (DEQ permits the discharge to the environment after treatment). The goal is to make sure that the pipes, pumps and treatment process are of sufficient size, quantity and design to remove sewage without backup or overflows and to treat the sewage in a manner that public safety is not jeopardized. Part of this process is to maintain proper separation from drinking water supplies. Prior to engineering oversight of sewage collection and treatment unsafe practices resulted in the deaths of hundreds of thousands of people every year from sewage contamination of food and water. In many areas of the world this dire situation continues due to lack of oversight and regulation of sewage handling, treatment and disposal.

Engineering staff also respond to complaints of sewage problems by citizens, provide technical advice and issue civil enforcement actions, where warranted.

Better Health

Drinking water is necessary to sustain human life. There are no demographic boundaries—every human needs safe drinking water for survival.

Every person bathes in, drinks, cooks, or washes with water daily. This water must be safe and the population must be protected from contamination by sewage, sewage gases or chemical exposure in their water or plumbing. The population served is >5.4 Million people/year from 1,400 public water systems.

Engineering Services collaborates with a wide range of stakeholders, including: the Federal EPA and CDC, the Louisiana Rural Water Association, the Louisiana Conference on Water Supply and Sewerage, the Louisiana Municipal Association, the Police Jury Association, the State Board for Licensing Engineers, DEQ (water contamination/source water protection), DNR (ground water wells), DOTD (well drilling and construction) , WL&F (invasive species), DAF (agricultural chemical contamination), the Public Service Commission (privately-owned water systems), and the Fire Marshall's office. National collaborations include the National Association of Drinking Water Companies, the Environmental Council of States, the Association of State Drinking Water Administrators, the Water Environment Federation and the American Water Works Association.

Engineering Services staff respond to every citizen complaint, and work hands-on with operators, owners, municipal and parish officials, engineers and developers to ensure that water systems are operated safely and in compliance with the regulations.

1. Economic Development

There would be little economic development or tourism in Louisiana without a plentiful, safe supply of potable water, which Louisiana currently has and some other states do not have.

2. Hurricane Protection and Emergency Preparedness

Engineering Services assistance is provided by staff to every emergency event 24/7, and work hands on GOSEP, operators, owners, municipal and parish officials, engineers and developers to ensure that water systems receive resources to assist in rapid restoration to safe.

3. Public Safety

Protecting transmission lines and plumbing through regulation of water/water waters systems and developers is a public safety function.

4. Natural Resources

- A good and plentiful supply of drinking water must be protected and reserved for human consumption as the first priority.
- Engineering Services sewer plan review and approval process protects natural water bodies from possible contamination.

The value is that people no longer die or are hospitalized from poor quality drinking water or from exposure to sewage or sewage gases because of consistent monitoring, training and oversight by DHH. Expanded value is to keep water safe in the pipelines, alert public to problems, manage current and future risks from chemical contamination that can cause illness or death, inspect water systems, take samples, train and maintain an educated operator community to correctly operate water and wastewater systems, and be vigilant during natural emergencies and protect our resources from potential attacks on water or wastewater systems or the supply of safe water.

This program is delegated to Louisiana DHH Engineering Services by EPA under Federal Authority: 42 U.S.C. 300f, *et seq.* (Safe Drinking Water Act); Regulations 40 CFR Parts 141-143. Grants: Public Water System Supervision Grant (F-00620209, CFDA 66.432), Water Protection Coordination for Counter Terrorism Activities Grant WP-96661001-2, CDFA 66.474, Operator Certification Expense Reimbursement Grant, CT-97609901-4 CDFA 66.471.

State Authority: L.R.S. 40:4.A(4)(5)(6)(7)(8)(10)&(11); 40:4.B; 40:4.11, 40:4.12; 40:5(5),(6),(8),(9)&(20); 40:5.6-9; 40:6; 40:8; 40:1141-1151, 40:1152-1156, 40:31.33
State Regulation: LAC 51: Part I Gen Provisions, Part XII Water Supplies, Title 48 Part V Chapter 73, Parts XII, XIII, XIV, XV, XVI, XVII, XVIII, XX and XXI

Links to programs are: www.epa.gov/safewater

Center for Environmental Health : <http://www.dhh.louisiana.gov/offices/?ID=242>

DHH-OPH Engineering Services: <http://www.dhh.louisiana.gov/offices/?ID=204>,

Safe Drinking Water: <http://www.dhh.louisiana.gov/offices/?id=238>